Section 2 Stormwater Management Program Development and Administration

2.1 Stormwater Management Area Assessments: Land Use and Water Quality

One of the first steps toward developing the SWMP was to determine the stormwater areas to be managed. The following unincorporated areas were designated as subject to the NPDES Phase II Final Rule and the MS4 General Permit as described in Section 1: 1) Baywood-Los Osos; 2) San Luis Obispo (urban fringe); 3) Nipomo; 4) Atascadero/Paso Robles (urban fringe, including Templeton, Santa Margarita and Garden Farms); 5) Cambria; and 6) Oceano. USEPA mapped "Urbanized Areas" (UAs) for all of these communities except Cambria, Oceano, and Los Osos. The USEPA UA maps were derived from the U.S. Census 2000 census blocks. The USEPA UA maps are of limited use because they are not drawn at the parcel level and do not follow roads or any other landmarks. In addition, the census blocks do not follow city limits, county urban or village reserve lines, or any other adopted jurisdictional boundaries. Due in part to these limitations, MS4's have been encouraged to propose their own boundaries and maps based, in part, on a municipal assessment that can be more or less detailed depending on the time and resources available to the MS4.

Next, the County prepared an assessment of each community based on current land use maps. The County noted general land use predominance and the location of major water bodies for each community. The details of this assessment and management area maps are shown in Appendix A.

The assessment revealed that most of the development in each community occurred within the boundaries of urban and village reserve lines (URLs and VRLs). The County General Plan and Area Plans have established urban or village reserve lines for each of the subject communities. The reserve lines represent the twenty-year planning and growth boundary for each community. In each of the communities, the URL or VRL adequately delineates areas of more concentrated development. The outlying land uses were largely agricultural or otherwise rural in nature. For the reasons described above, the County proposes that the SWMP boundaries be drawn at the URL or VRL for a particular community. Refer to Appendix A for the management boundary map for each community.

The predominant land use in each of the subject areas is single family residential with the exception of the San Luis Obispo urban fringe. All of these communities, with the exception of the San Luis Obispo urban fringe, have a smaller amount of small-scale commercial development. Industrial development is limited overall. Land use in the San Luis Obispo urban fringe is predominantly commercial, industrial, and agricultural, with a smaller amount of single family residential.

2.2 Stormwater Pollutants of Concern

Once the stormwater management areas were identified, the County analyzed existing water quality data to determine the Pollutants of Concern impacting waterbodies within the permit coverage area. Water quality monitoring data from the Central Coast Ambient Monitoring Program (CCAMP) were reviewed to determine which parameters have been monitored and the pollutant load trends that have been reported. See Appendix A for the results of this review. Next, key water quality reports and Watershed Management Plans for waterbodies within the permit coverage area were reviewed to look for local water quality problems caused by stormwater runoff. See Table 2.1 for a listing of the water quality reports and watershed management plans that were reviewed for stormwater pollution impacts on waterbodies located within the permit coverage area.

Table 2.1 Key Local Water Quality Reports and Watershed Management Plans for Waterbodies in the Permit Coverage Area

Water Quality Document	Watersheds Covered	Internet Hyperlink, where available
San Luis Obispo Integrated Regional Water Management Plan	All	http://www.slocountywater.org/reports/irwm/toc.htm
Morro Bay National Estuary Program Comprehensive Conservation Management Plan for Morro Bay	Morro Bay	http://www.mbnep.org/publications/
Monterey Bay National Marine Sanctuary Program Action Plan IV: Agriculture and Rural Lands	All watersheds draining to the Monterey Bay National Marine Sanctuary	http://montereybay.noaa.gov/resourcepro/reports/agactioniv_99/welcome.html
Monterey Bay National Marine Sanctuary Program Action Plan I: Implementing Solutions to Urban Runoff	All watersheds draining to the Monterey Bay National Marine Sanctuary	
Monterey Bay National Marine Sanctuary Program Water Quality Protection Program Implementation Action Plan	All watersheds draining to the Monterey Bay National Marine Sanctuary	
Upper Salinas River Watershed Action Plan	Upper Salinas River	
San Luis Obispo Creek Waterway Management Plan	San Luis Obispo Creek	http://suntzu.larc.calpoly.edu/slo_creek/reports.htm
Arroyo Grande Creek Watershed Management Plan, Central Coast Salmon Enhancement, Draft	Arroyo Grande Creek	

Water Quality Document	Watersheds Covered	Internet Hyperlink, where available
Nipomo Creek Watershed Management Plan	Nipomo Creek	http://www.special-places.org/ecm/Conservation_Planning/Nipomo_Creek_Watershed_Management_Plan.html
Salinas River Watershed Management Action Plan, October 1999	Salinas River	http://www.waterboards.ca.gov/centralcoast/WMI/Salinas%20River.pdf
Central Coast Regional Water Quality Control Board Basin Plan	All	http://www.waterboards.ca.gov/centralcoast/BasinPlan/Index.htm
Watershed Management Initiative, January 2002	All	http://www.swrcb.ca.gov/rwqcb3/WMI/WMI%202002,%20Final%20Document,%20Revised%201-22-02.pdf
Water Quality Priorities and Targeted Projects 2004-2005	All	http://www.waterboards.ca.gov/centralcoast/WMI/documents/WMI2004WaterQualityPrioritiesAppendixDFINAL.pdf
Draft 2005 Basin Plan Triennial Review Priority List	All	http://www.waterboards.ca.gov/centralcoast/BasinPlan/TriennialReview/documents/AttachATRL2004revised4-6-05.pdf
Final 2001 Basin Plan Triennial Review Priority List	All	http://www.waterboards.ca.gov/centralcoast/BasinPlan/TriennialReview/documents/
Central Coast RWQCB 303(d) Investigations and TMDL Projects	See Table 2.3	http://www.waterboards.ca.gov/centralcoast/TMDL/303dandTMDLprojects.htmattachB.pdf
Central Coast RWQCB 2002 CWA 303(d) List of Impaired Waterbodies	See Table 2.2	http://www.waterboards.ca.gov/tmdl/docs/2002reg3303dlist.pdf
RWQCB Central Coast Ambient Monitoring Program (CCAMP)	See Appendix A	http://www.ccamp.org/
Heal the Bay Annual Beach Report for San Luis Obispo County	Coastal watersheds	http://www.healthebay.org/brc/annual/default.asp

In general, Pollutants of Concern vary for each subject community, but generally fall within one of two categories: 1) pollutants associated with soil disturbance and 2) pollutants entering the system from other surface runoff. These pollutants are generally associated with land use and enter waterways through runoff from urban surfaces. For more detailed assessment information for each community, refer to Appendix A.

Section 303(d) of the Clean Water Act requires States to identify waters not attaining applicable water quality standards and to develop Total Maximum Daily Loads (TMDLs) for pollutants. The State complies with this requirement by periodically assessing the conditions of the rivers, lakes and bays and identifying them as “impaired” if they do not meet water quality standards. These waters, and the pollutant causing the impairment,

are placed on the Clean Water Act Section 303(d) List of Impaired Waterbodies. In addition to creating this list of impaired waterbodies, the Clean Water Act mandates that the states rank each waterbody by factors such as the severity of the problem, potential to restore beneficial uses, availability of data, etc., and develop TMDLs for each waterbody listed.

A TMDL is the amount of a particular material that a waterbody can assimilate on a regular basis and still remain at levels that protect beneficial uses designated for that waterbody. A TMDL is approved by the Regional Water Quality Control Board, the State Water Resources Control Board, and the US Environmental Protection Agency. Once a TMDL is approved, it establishes the following:

1) An allowable amount of a pollutant to a waterbody;
2) Proportional responsibility for controlling the pollutant;
3) Numeric indicators of water quality; and
4) Implementation to achieve the allowable amount of pollutant loading.

TMDLs are developed by analyzing information from existing or commissioned studies, and/or by stakeholders interested in the waterbody or conditions being investigated. TMDL development results in a definition of water quality problems in a waterbody or watershed, a numeric value for the TMDL, and an implementation plan that identifies how the problems will be solved and the TMDL achieved. The implementation plans identify new requirements, based on existing regulations, in conjunction with other existing water quality management activities. The implementation plans identify which requirements or activities apply to which agencies, landowners, resource managers, and/or the public.

Table 2.2 lists the waterbodies in the permit coverage area that are impaired by pollutants and the potential sources of pollutants. The pollutants identified on the 303(d) list are Pollutants of Concern for San Luis Obispo County.

Table 2.2 Clean Water Act Section 303(d) Listed Waterbodies and TMDL Priority in the Permit Coverage Area

From the California 2002 Clean Water Action Section 303(d) List
Note: The 303(d) list is revised every 3 years. The 2005 list is still in draft form at the time of this writing.

Waterbody	Pollutant	TMDL Priority	Potential Sources
Atascadero Creek	Fecal Coliform	Low	• Unknown
Atascadero Creek	Low Dissolved Oxygen	Low	• Unknown
Chorro Creek	Fecal Coliform	Low	• Unknown
Chorro Creek	Nutrients	High	• Municipal Point Sources • Agriculture • Irrigated Crop Production • Agricultural storm runoff

Waterbody	Pollutant	TMDL Priority	Potential Sources
Chorro Creek	Sedimentation/Siltation	High	• Agriculture • Irrigated Crop Production • Range grazing – riparian and/or upland • Agricultural storm runoff • Construction/Land Development • Road Construction • Resource extraction • Hydromodification • Channelization • Streambank modification/ destabilization • Channel erosion • Erosion/siltaton • Natural sources • Golf course activities • Nonpoint source
Los Osos Creek	Fecal Coliform	Low	• Source Unknown
Los Osos Creek	Low Dissolved Oxygen	Low	• Agriculture • Pasture grazing – riparian and/or upland • Urban runoff/storm sewers • Natural Sources
Los Osos Creek	Nutrients	High	• Agriculture • Irrigated crop production • Agricultural storm runoff • Agricultural return flows
Los Osos Creek	Sedimentation/Siltation	High	• Agriculture • Irrigated Crop Production • Range Grazing – riparian and/or upland • Agricultural storm runoff • Hydromodification • Channelization • Dredging • Habitat modification • Removal of riparian

Waterbody	Pollutant	TMDL Priority	Potential Sources
			vegetation • Streambank modification/destabilization • Channel erosion • Erosion/Siltation • Natural Sources • Nonpoint Source
Morro Bay	Metals	Medium	• Surface Mining • Nonpoint Source • Boat Discharges/Vessel Wastes
Morro Bay	Pathogens	High	• Range Grazing – Upland • Urban Runoff/Storm sewers • Septage disposal • Natural sources • Nonpoint Source
Morro Bay	Sedimentation/Siltation	High	• Agriculture • Irrigated Crop Production • Construction/Land Development • Resource Extraction • Channelization • Channel Erosion
Nipomo Creek	Fecal Coliform	Low	• Agriculture • Urban Runoff/Storm sewers • Natural Sources
Oso Flaco Creek	Fecal Coliform	Low	• Source Unknown
Oso Flaco Creek	Nitrate	Low	• Source Unknown
Salinas River - upper	Chloride	Low	• Agriculture • Pasture grazing – riparian and/or upland • Urban Runoff/Storm Sewers
Salinas River - upper	Sodium	Low	• Agriculture • Pasture grazing – riparian and/or upland • Urban Runoff/Storm Sewers
San Luis Obispo Creek	Nutrients	High	• Municipal Point Sources • Agriculture • Irrigated Crop Production

Waterbody	Pollutant	TMDL Priority	Potential Sources
			• Agricultural storm runoff
San Luis Obispo Creek	Pathogens	High	• Source Unknown
San Luis Obispo Creek	Priority Organics	High	• Source Unknown

Table 2.3 lists the TMDLs that have been approved for the impaired waterbodies in the permit coverage area for this SWMP. A complete listing of the status of all of the TMDLs in the region can be seen on the internet at http://www.waterboards.ca.gov/centralcoast/TMDL/303dandTMDLprojects.htm

Table 2.3 Approved TMDLs for Clean Water Act Section 303(d) Listed Waterbodies in the Permit Coverage Area as of June 2006

TMDL	Status
Morro Bay TMDL and Implementation Plan for Pathogens, Including Chorro and Los Osos Creeks	Final approval January 20, 2004 November 19, 2003 effective date
Morro Bay TMDL and Implementation Plan for Sediment Including Chorro Creek, Los Osos Creek and the Morro Bay Estuary	Final approval January 20, 2004 December 3, 2003 effective date
San Luis Obispo Creek Pathogen TMDL	Final approval September 23. 2005 July 25, 2005 effective date
San Luis Obispo Creek Nutrient TMDL	Approved by RWQCB September 9, 2005

This SWMP addresses the Pollutants of Concern identified in the TMDLs that have been approved at the time of this writing as follows:

San Luis Obispo Creek Pathogen TMDL

See Section 4 for a detailed description of the BMPs listed below.

BMP as Cited in TMDL	Discussion as Cited in TMDL	How the Pollutant of Concern (Pathogens) is Addressed in this SWMP
"Public Participation and Outreach"	*"Educate the public regarding sources of fecal coliform and associated health risks of fecal coliforms in surface waters. Educate the public regarding actions that individuals can take to reduce loading."*	BMP PE18 Pet waste management public education and outreach campaign BMP PE3 Television Public Service Announcements BMP PE5 Printed Materials targeting residential audiences BMP PE10 Educational Programs for School Age Children BMP PE11 College Students BMP PE12 Tourists BMP PE 13 Website BMP PE16 Public Events and Displays

BMP as Cited in TMDL	Discussion as Cited in TMDL	How the Pollutant of Concern (Pathogens) is Addressed in this SWMP
"Pet Waste Management"	*"Develop and implement enforceable means (e.g. an ordinance) of reducing/eliminating fecal coliform loading from pet waste."*	BMP IL11 Adopt and enforce a Pet Waste Management Ordinance BMP PE18 Pet waste management public education and outreach campaign
"Illicit Discharge Detection and Elimination"	*"Develop and implement strategies to detect and eliminate discharges (whether mistaken or deliberate) of sewage to the Creek."*	BMP IL4 Illicit connections/discharge inspections BMP IL6 Sanitary Sewer Overflow Prevention and Spill Response Program BMP IL1 IDDE Ordinance BMP IL 12 IDDE Education and Training Program BMP IL2 Storm sewer GIS map BMP IL3 Citizen reporting hotline BMP IL7 Septic system management program
"Pollution Prevention and Good Housekeeping"	*"Develop and implement strategies to reduce/eliminate fecal coliform loading from streets, parking lots, sidewalks, and other urban areas potentially collecting and discharging fecal coliform to the Creek."*	BMP MO1 Employee training program BMP MO2 Street sweeping program BMP MO 3 Storm drain cleaning and inspection BMP MO6 Facility inspection program

San Luis Obispo Creek Nutrient TMDL

See Section 4 for a detailed description of the BMPs listed below.

BMP as Cited in TMDL	Discussion as Cited in TMDL	How the Pollutant of Concern (Nutrients) is Addressed in this SWMP
"Reduce nutrient loading to San Luis Obispo Creek from residential sources"	*"Implement management practices consistent with and required by small MS4 permits for residential sources of nutrients."*	BMP PE18 Pet waste management public education and outreach campaign BMP PE5 Printed materials targeting residential audiences including proper use of fertilizers and septic system maintenance

Morro Bay Pathogen TMDL

See Section 4 for a detailed description of the BMPs listed below.

BMPs/Projects as Cited in TMDL	Discussion/Actions as Cited in TMDL	How the Pollutant of Concern (Pathogens) is Addressed in this SWMP
"Pet Waste Management"	*"Create an off leash dog park*, provide supplies to pick up pet waste, ordinance*."	BMP IL11 Adopt and enforce a Pet Waste Management Ordinance BMP PE18 Pet waste management public education and outreach

BMPs/Projects as Cited in TMDL	Discussion/Actions as Cited in TMDL	How the Pollutant of Concern (Pathogens) is Addressed in this SWMP
	The County operates an off leash dog park at El Chorro Regional Park in the Morro Bay watershed	campaign which includes mutt mitt stations in County Parks
"Septic system maintenance"	*"Inspect and maintain all septic systems throughout the watershed."*	BMP IL7 Septic system management program
"Spay/neuter pets"	*"Educate the public to promote spaying and neutering pets."*	BMP PE18 Pet waste management campaign including spay/neuter programs.
"Reduce the number of feral dogs/cats"	*"Reduce the number of feral dogs/cats"*	BMP PE18 Pet waste management campaign including programs for feral cats and dogs.

Morro Bay Sediment TMDL

See Section 4 for a detailed description of the BMPs listed below.

BMPs/Projects as Cited in TMDL	Discussion/Actions as Cited in TMDL	How the Pollutant of Concern (Sediment) is Addressed in this SWMP
"Road Maintenance"	*"Increase the use of management measures for road maintenance and construction."*	BMP MO5 County road and bridge maintenance procedures BMP MO3 Storm drain inspection and maintenance
"Stormwater Sediment Controls on Roads"	*"Include specific road sediment control measures in County stormwater management plan."*	BMP MO5 County road and bridge maintenance procedures BMP MO3 Storm drain inspection and maintenance BMP CON1 County grading ordinance

Additional analysis of the Pollutants of Concern can be found in Appendices A and C.

2.3 SWMP Program Development

To further develop the program, the County inventoried existing water quality activities related to stormwater and evaluated potential alternative BMPs. The inventory of existing water quality activities related to stormwater is described in Appendix B. The process used for evaluating and prioritizing potential BMPs for augmenting the County's existing stormwater practices is described below.

The Decision Matrix method for evaluating and prioritizing BMPs was developed to assist the County in identifying the most appropriate BMPs for the SWMP. A prioritization process was used as a tool for selecting BMPs. The steps involved in the

BMP prioritization process were as follows:

1) Identify decision criteria;
2) Determine criteria weighting;
3) Score BMPs based on each criterion;
4) Rank BMPs based on total score;
5) Review BMP scoring results; and
6) Decide which BMPs to implement

Decision criteria were used to help identify and prioritize BMPs that would best fit the County's SWMP. The decision criteria selected reflected factors that were most important to the County. Each decision criterion was considered to be exclusive to prevent overlapping criteria. Based on County staff discussions, benefit, ease of implementation, use of existing activities, and cost were selected as criteria for comparing potential BMPs.

Criteria weighting was used to assign more value to criteria that were more important in prioritization of the BMPs. Each criterion was assigned a weighting factor based on its importance relative to the other criteria. The weightings were assigned using a "pair-wise" comparison where each criterion was compared to the others and given a score. The results of the criteria weighting process are shown below.

Criterion	Weight
Benefit	45%
Ease of implementation	30%
Use of existing activities	20%
Cost	5%

After the criteria selection and criteria weighting were complete, a decision matrix was used to rank BMPs for each of the six minimum control measures. A rating scale ranging from 0 to 4 was used to describe how well a BMP met each individual criterion. After the scores were assigned they were multiplied by the weight factor and totaled for each BMP. Upon completion of the BMP scoring, County staff reviewed the BMP rankings and confirmed that they were correct and appropriate. After the BMPs were prioritized, County staff decided which BMPs to implement based on available resources. The BMPs selected for each minimum control measure are described in Section 4.

2.4 Inventory and Assessment of Existing County Water Quality Activities Related to Stormwater

Currently, the County is engaged in a number of water quality activities that are related to stormwater. These activities are summarized in Appendix B. The existing water quality activities are consistent with the extent of the County's jurisdiction and are continued and refined in the SWMP BMPs. Refer to Section 4.7 to see how existing

water quality activities are aligned and linked to the SWMP BMPs.

It is important to note that there are a number of other agencies and non-profit organizations that also administer water quality programs related to stormwater. Refer to Appendix B for a summary of water quality activities sponsored by these groups. The County will continue to work with other agencies and organizations to implement regional public education and outreach and public participation and involvement programs.

2.5 SWMP Program Administration: Staff and Budget

Staff

The County Department of Public Works Environmental Programs Division has the mission of achieving compliance with federal, state and local environmental regulations. A Stormwater Pollution Prevention Coordinator has been hired to administer the SWMP. The four key County departments involved in the implementation of the SWMP are the Department of Public Works, the Department of Planning and Building, the Department of General Services, and the Department of Public Health, Environmental Health Services Division. The department responsible for each BMP is shown in Section 4. The roles for each of the key departments are described below.

The Department of Public Works manages the County's roads and the majority of the drainage facilities in the unincorporated areas. The department also operates several water systems and one sanitary sewer collection system within the SWMP coverage area. In addition, the department manages construction projects on County roads and utility systems countywide. The Department of Public Works conducts plan review for all private development projects that propose grading or drainage changes and inspects all privately constructed facilities intended for dedication to the public such as new subdivision roads. The County's Stormwater Pollution Prevention Coordinator is located in the department and reports to the Public Works Environmental Programs Manager.

The Department of Planning and Building oversees private development projects in the unincorporated areas of the County. In addition, the Department of Planning and Building develops and manages the County General Plan, Area Plans, and Local Coastal Plan. The Department of Planning and Building will participate in the implementation of the County's SWMP by ensuring compliance with construction site runoff controls and post-construction stormwater management, distributing pubic education and outreach materials to the development community, and by developing and implementing land use and infrastructure policies and programs that benefit stormwater.

The Department of General Services manages County facilities including buildings and parks. The Department of General Services will participate in the implementation of the

County's SWMP by implementing BMPs at County facilities and by distributing educational materials to users of County parks and buildings.

The Environmental Health Services Division of the Department of Public Health works to protect the health of the community by preventing the transmission of disease and exposure to harmful levels of environmental contaminants. County Environmental Health Services works with organizations, businesses and regulatory agencies to protect the overall health of residents and visitors by preventing the transmission of disease and exposure to harmful chemicals and microbes in the environment. Environmental Health programs address issues related to: drinking water, recreational water, food safety, indoor mold abatement, lead abatement, liquid and solid waste, water well contamination, hazardous materials and wastes, vector surveillance, land use hazards, and housing and institutions. Environmental Health will assist in the implementation of the Illicit Discharge Detection and Elimination minimum control measure BMPs.

The County has formed a Stormwater Pollution Prevention (SWP2) Team made up of representatives from each of the four departments and led by the County Stormwater Coordinator. The SWP2 Team's mission is to implement the County's SWMP in compliance with the NPDES Phase II stormwater regulations and the MS4 General Permit. The SWP2 Team seeks to protect and improve water quality in San Luis Obispo County by implementing stormwater pollution prevention BMPs. Teamwork among county departments enables the County to consider stormwater quality in all aspects of the County's activities and to leverage the synergies afforded by inter-departmental communication and coordination of stormwater efforts.

Budget

The original development of the SWMP was funded by the Flood Control and Water Conservation District with a budget of $150,000. The 2005/06 budget for program implementation was approximately $110,000 and was funded by the County General Fund rather than the District. The proposed 2006/07 budget is approximately $138,000. Ultimately, SWMP implementation will have a broad impact on the County, the District, the Development Community, and County Departments including Public Works, Planning and Building, General Services, and Environmental Health, as well as the general public. The total financial impact will be based on the details of how the plan is implemented, or modified, during the five-year permit term.